

ADDRESS TO SCARBOROUGH COLLEGE

CO-OPERATION - GOVERNMENT

AND INDUSTRY

CANADIAN ARCTIC

-By-

MURRAY WATTS

January 29, 1971.

05660

POLAR
PAM
680

POLARPAM

ADDRESS - SCARBOROUGH COLLEGE - JANUARY 29, 1971

TOPIC - CO-OPERATION - GOVERNMENT AND INDUSTRY
 - CANADIAN ARCTIC

- By -

MURRAY WATTS

INTRODUCTION

While choosing the above title - it is recognized that this address is confined to only one segment of the many possible areas of co-operation between Government and industry, but it is submitted that it is a very vital one, as it affects the future prospects for mining developments in the Canadian "high" Arctic areas, for it affects all the lives of people over a large area of Canada.

Over the past 12 years there has been spasmodic, though considerable co-operation between the Federal Government and private enterprise represented by certain Mining Companies, which really add up to considerable progress, when viewed from hindsight, though unfortunately largely unknown to the Canadian public. These areas of Government assistance through the Department of Indian Affairs and Northern Development are briefly summarized as, charting of Northern Arctic seas and coastal inlets with depth soundings, survey maps, geological and aerial magnetic surveys, subsidy assistance on tote roads and development airfields, Eskimo training and labour, and in many other minor ways. These were forward looking policies, for all assistance is important to the success of the mining companies in an area where there are little or no established facilities of any kind. A little help goes a long piece under such circumstances.

However, the trend of events and progress now insist that major type decisions be made - especially by Government. Such assistance to be effective, can no longer be small and fragmented as in the past. Mining developments have now reached the stage where major financing and policy decisions must be made by both Government and the Companies in order that at least one such enterprise be brought into production- in this case the Baffinland Iron Mines Ltd., located

BOREAL INSTITUTE
LIBRARY

BOREAL INSTITUTE
LIBRARY

at Mary River in the north part of Baffin Island, about 600 miles north of Frobisher. It should be recognized that no other feasible major natural resource project exists to-day in all the Canadian high Arctic. Many discussions have been carried out between the Federal Government and the Company representative over the past few years without as yet arriving at any solution for co-operation.

The chief problems are now largely confined to matters of Government financial assistance, but taking into consideration the problems of Eskimo inhabitants as future workers. The following remarks refer therefore specifically to the Baffinland Iron Mines Ltd., project.

The Company for its part has felt encouraged that the Government appeared to regard these major mining developments on the Baffinland property in that part of the Canadian Arctic as being in the national interest for creating a major commercial industrial type mining enterprise - since none in that sense exists in all the vast Northern areas - which in turn comprises a very large part of the total land mass of Canada - all presently largely sterile.

The problems of construction and operation of such an enterprise are complex and formidable with more than the usual risks of mining due to its remote location within the Arctic environment - yet I well believe the Company have well demonstrated their faith in the future of this "undeveloped country" by the expenditure of some \$2,500,000.00 , to-date in high-risk venture capital - beginning in 1962 - the year of its discovery.

Any suggestions or opinions stated herein are not meant to be complete or detailed in any respect. They attempt to outline basic thinking for a practical working concept to provide the guidelines that it is hoped - will lead to a satisfactory solution to co-operation between the Company and the Government to finance the Mary River Project.

While many discussions and various plans of co-operation between the Company and the Government have been discussed - no practical ways and means have yet been agreed upon - yet it is the conviction of the Company that it is practical and possible to do so. These past associations and discussions are believed useful in that they form the major basic part of the present co-operative financial proposals - all or most of which were conceived or evolved in one form or another by the Department of Northern Affairs and Development - now the Department of Indian Affairs and Northern Developments.

For the Company part - it can be stated without reservations that they are vitally interested in the development of production of the Baffinland iron deposits as already demonstrated, but it is fully realized that it is not commercially feasible for the Company to provide all the finances necessary for the above production due almost entirely to their excessive Capital Cost as a viable mining investment as compared to the more accessible comparative ventures in the more southerly parts of Canada - or for that matter anywhere in the world. The main reasons for the considerably more than normal capital investment requirements for Baffinland in the Mary River area are by now well known to those closest to it, but can be repeated in general as follows:

1. There are presently no operational or other industrial facilities of any kind what so ever in the Mary River area - where as, in the more accessible mining areas of Canada - at least all or a large part of the so-called infra-structure is already provided through one or more established townsites, power, access road, railroad, airfields, mining supplies and industrial type population, harbour, etc.

It is a fact that the Company simply cannot afford to pay for all of the costs of these infra-structural facilities piled on top of the normal capital or investment requirements especially as compared to more accessible mining areas of Canada or elsewhere.

2. INFRA-STRUCTURAL FACILITIES AND GOVERNMENT

It is almost entirely within this establishment of the investment or cost of providing such facilities that the Company proposes the Government assume - either wholly or in large part. Such infra-structure facilities are entirely or largely those of service to an entire community and area. The stimulation of one area development will certainly lead to others. There are already established Government policies and (or) precedents for the payment of such infra-structural facilities such as power through the Northern Canada Power Corporation, airfield and radio-aids through the department of Transport, access roads through the northern development fund and other Federal Funds, townsites through the "open" townsite policy (no "Company" townsites), railroad construction cost as for the Pine Point railroad, various Eskimo assistant training plans and provision of housing, schools, hospitals, etc.

3. INFRA-STRUCTURAL FACILITIES AND COMPANY

The financial provisions by payment for the above infra-structure facilities and others by the Government whether by payment of direct costs or loans to the enterprise as the case may be - would be regarded by the Company as those granted as common to the development to production of any viable or proven mining enterprise in the far north.

If, as and when an agreement had been reached between the Company and the Government on the many parts of the infra-structural facilities and their subsidy financing, tax policies, loans, etc., there would then remain as a finalty the matter of "equity" financing of the enterprise through the purchase of treasury shares from Baffinland Iron Mines Ltd.

4. GOVERNMENT EARN AN INTEREST IN THE COMPANY

It is suggested here that the Government may desire to earn an interest in the enterprise by subscribing for such shares at the same price and same cost as the Company or public shareholders would pay, with perhaps also, some incentive arrangement for providing some method to obtain low interest cost loans - since current high interest money rates are prohibitive for the longterm needs for such an enterprise.

5. ACCESSIBILITY AND TRANSPORT

In addition to the complete lack of facilities in the Mary River area as stated above, another major problem is caused by its remoteness which creates relatively high-cost early transport - whether by plane or by ship - the only two presently practical methods for such a remote area.

The effects of reduced transport costs through the progressive development of large scale type transport for both (1) plane transport and (2) sea transport have been dramatic since their discovery in 1962 - and can be even more so in the future. Without using the advances in modern technology of transport by plane and more vitally by ship within only the past decade or two - economic development consideration could not be given to such an enterprise in such a remote area so recently considered ice bound for at least 10 months of the year.

(1) Plane Transport

On entering the Mary River area in 1962 - the cost by small plane for small scale freight totalled between \$2.00 - \$3.00 per lb (\$4,000.00 - \$6,000.00 per ton) landed at Mary River. By 1962, '63 and '64 using chartered DC-4 and Constellation aircraft and the lake ice as a landing field these costs were successfully reduced to around 25 cents to 30 cents per pound (\$500.00 - \$600.00/ton) from Montreal to Mary River - about 1900 air miles in distance.

Larger aircraft using paved airfield, radio-aids, etc., can reduce this much further - also a reduction in time for a modern jet will make the trip from Montreal, Toronto or Winnipeg in about 3-hours or so. Its chief value is to make any part of the Arctic as accessible as any other part of Canada for people and higher priced or emergency materials for the future.

(2) Sea Transport and Insurance

This is the final ultimate answer to all the major problems of high cost bulk freighting with a dramatic effect on lowering on the "cost of living" for people to live there as permanent residents, in addition to that for making feasible a whole new and major mining industry.

After the Company entered the Mary River area in 1962 - the 1963 sea shipping quotes were around \$220.00/ton for small load lots - progressively lowered to \$120.00/ton during '63, '64 and '65. By only 1966 a quotation of less than \$20.00 per ton for a 3300 ton charter vessel was received. Future construction of giant sized iron ore bulk carriers of 150,000 to 300,00 T. d.w.t., can hopefully transport iron ore to Europe for somewhere between \$3.50 to \$5.00 per ton depending upon hull and other insurance rates, and the presently largely unknown cost of construction for amortization purposes of such large re-inforced ice-breaker freighters including the insurance rates. These latter were \$14.00/ton on first entering Milne Inlet in 1963 for the Mary River operation, but were finally quoted by Lloyds of London at around 50 cents per ton for properly ice strengthened giant bulk ore carriers or freighters (hull insurance only) in 1966.

While the subject of insurance rates for Arctic shipping made great progress by the Company insofar as they were able to do so- it is now the opinion of the management that further real progress is beyond their capacity - that this entire matter is a vital economic problem affecting all transport in the Canadian Arctic waters and that the entire problem of insurance rates calls out urgently for Government leadership and action.

As another example of the future dramatic possibilities caused to lowering freight costs is that of fuel oil, that could be supplied to Milne Inlet by tanker - used for both heating and power - two of the very vital areas in costs for both people to live there and for industry to operate economically. One of the largest Canadian Oil Companies quote the bulk cost of fuel oil landed at Milne Inlet at slightly less per gallon than that landed for Montreal.

The recent advent of the Manhattan voyage through the North-West Passage has advanced the entire concept of year round shipping using giant ice re-inforced bulk ore carriers to the point where such year round shipping is plainly technically feasible - the economics have still to be worked out.

Suffice it to say at the moment that one 250,000 T./d.w.t. to 300,000 T./d.w.t. ore-carrier operating between Europe (Europort) and Milne Inlet for 10 months of the year could transport over 3,000,000 long tons annually according to those experts involved in the Manhattan project. The limitation on tonnage production in previous estimates was that imposed by the feasibility of sea shipping using only a 6 to 10 week period of "open water" - with shipping limited initially to about 2,000,000 tons annually not on the ability to mine from Mary River iron deposits in terms of maximum tonnage capacity.

Under the "Manhattan" shipping concept - it would seem that production planning should now logically be initiated at around 3,000,000 long tons annually (instead of 2,000,000 L. tons) and consider a plan to increase to double this amount over a planning and implementation period of some years - say to 6,000,000 tons or more.

No ore transfer point for shipping such as Greenland need now be considered as formerly - an additional cost that could not then be rationalized, without further ore beneficiation at such a point.

4. THE ARCTIC ENVIRONMENT AND PEOPLE-TOWNSITE

Piled on top of the problems enumerated above that must be dealt within its own unique way, is that of the severity of the Arctic environment in the Mary River area affecting the working and living of the people. In order that permanent residency become established by those workers for their need, skilled and technological training-acceptable social and other amenities in family living within a community must be created in such a way that a standard not yet reached in the history of the Canadian Arctic becomes common place.

While the Company have already drafted a plan for a normal type townsite following along conventional standards of the south and near-north - this may well not be good enough for a long term project such as Baffinland where ore reserves as calculated are presently in the nature of 60 years at 5,000,000 L.T./year - though the eventual total that might well be developed could be a multiple of that figure in high-grade only - not counting the observable major potential in additional low grade iron reserves.

Obviously - such a townsite will be more costly than any considered to-date - so that a whole new approach might well be taken to its establishment encompassing the "research" concept for its financing - and again beyond the viable financial capacity of the Company only.

Eskimos and Eskimo employment form a very important part of future planning for labour, skilled trades training and even for some technological and engineering training where maximum mechanization and training are vital to the efficiency of the project.

With respect to the latter - the Government funds spent annually on welfare of Eskimos was reported as totalling \$47,000,000.00 in 1965 - and increasing rapidly. Successful employment of the Eskimo on a year round mining basis would go far to solve this very acute degeneration problem for many native people.

Also, the construction of a modern townsite at Mary River might well put to better use of Government funds now spent at such places as Inuvik and Frobisher where there is little or no industrial base and little to support their continuation except on a welfare basis. Original Inuvik construction cost was reported to be over \$45,000,000.00 to-date and Frobisher planning in the early stage was reported to be \$18,000,000.00. Their upkeep and continual expansion in costs will be a continuing heavy drain on Government without a similar apparent compensating gain in an economic sense.

The future establishment of a townsite, research and northern centre for Eskimos and Administrators for the Northern Arctic at a place such as Mary River, where there could be a major industrial base already established with a self-supporting population would seem to have important advantages as a forward looking policy suitable to the long term future social and economic needs of both the Eskimos, the Government and private enterprise.

It is believed worth recognizing that only a major mineral natural resource development (or several smaller ones) can provide the industrial employment needs for the native people and be sufficiently viable financially to provide a national purpose in doing so.

5. OTHER ECONOMIC FACTORS OR CONSIDERATIONS

(1) Operating Costs and Capital Costs

In all aspects relating to fiscal matters for the Baffinland project and an understanding of the associated financing and operating efficiency - the Company feels it should make and stress the distinct cleavage between Operating Costs (or this case Unit Operating Costs) and Capital Costs.

(2) Unit Operating Costs

In terms of Unit Operating costs per long ton of ore delivered F.O.B. Ship Milne Inlet - its total includes the unit cost of development or preparation for mining of the ore body, mining, loading and trucking to the crusher and screening plant, stock piling of ore and rejects at mine site, train loading and hauling to Milne Inlet, stock piling and ship loading at Milne Inlet.

The unit operating cost estimated on a long ton unit basis for Baffinland Iron Mines Ltd. is approximately that of like operations in other parts of the world and is therefore roughly competitive in a world sense - which it must be in order to stand on its own feet once placed in operation.

The shipping costs of iron ore to a consumer and the Capital Cost of production then remains as factors of final economic concern after F.O.B. Ship Milne Inlet. The shipping problems (Manhattan type) are reviewed under transport while Capital Costs opinions follow.

(3) Capital Cost - Management

The Capital Costs are considerably higher than comparable projects as stated previously - which is all a part of achieving efficiency in the Unit Operating Costs through the maximum in mechanization and automation including a hard working dedicated labour and working staff - for the machines must still depend upon the human element.

There can be no compromise on this point.

Management must therefore understand this fully which it cannot do and be able to apply without being totally familiar with working in the severest of Arctic conditions and a complete knowledge of that environment including permafrost, severe low temperatures, snow storms, high winds and so on. Above all management must be not only informed but innovative.

Personal observations over many years on the use of contractors or engineering firms without this very rigidly tested background can easily lead to much inefficiency of operations - and can in some cases be financially disastrous.

(4) Investment - Profitability

As a viable mining enterprise for investment purposes, Baffinland Iron Mines Ltd. must pay its operating costs, all interest charges, taxes, return its Capital Investment and pay the normal profit on a mining investment - which latter includes normal interest rate with an allowance for a risk factor.

(6) TAXATION

General

Taxation policies in the opinion of management for the Canadian Arctic are a strictly southern concept - largely unrelated to the problems of pioneering in a presently sterile undeveloped part of Canada with its inhospitable climate and great areas unpopulated.

Insofar as possible incentives to individuals and to the Company operations should have priority over subsidy - though the need for the latter are well recognized also.

Taxation policies of the Government might well take these factors into consideration if the Arctic north is to develop as it can, should and must.

Characteristically - to think "South" is to be a pessimist and be defeated - usually before starting.

To think "North" is to be an optimist - which calls for often doing the impossible and succeeding just as our pioneering forefathers did before us - for our "North" has all the challenges of pioneering that compelled them to make it possible for others to follow.

It was the late Honourable C. D. Howe who stated that "TO BE A PESSIMIST IS TO DIE". If this is true of the "South" - it certainly is more so of the "North".

Certain tax policies that require "North" thinking are as follows:

(1) Corporation, Royalty Tax, Sales Tax, etc.

No taxes should be paid by the Company until its capital and debt is fully re-paid. There can only be a low unit profit on such modest value of ore in terms of value per ton - so that large annual tonnages must be produced requiring a corresponding greater capital investment. Added to the normal risk of mining are those of contending with the Arctic environment which is without construction precedents in mining or operating costs. Obviously a 20 year amortization period is required for all or nearly all of the investment in the enterprise.

(2) Income Tax

There is nothing so destructive to individual initiative as the present income tax system for workers in northern latitudes - where most of them desire the benefits of a strong incentive pay system to reward hard work, loyalty, isolation, special skills - all within an inhospitable climate with sometimes considerable human hardship.

Again and again over the years - what is unquestionably regarded as a highly punitive taxation system to the individual worker in the "Far North" contributes unnecessarily to high labour turn over and too often defeats the best efforts of management to obtain what should be simple labour efficiency of operation. Also - the Government might well consider that such relief to the worker would go far towards providing some of the necessary extra pay due as a proper and due individual incentive - but avoid under all consideration - the extra money misnamed "Northern incentive allowance" for travelling north and just to live there to serve out their term of confinement.

(3) White Paper

If the White Paper proposals were implemented with respect to mining - the effects would be to make the enterprise as it now stands that much more unprofitable. Obviously just that much larger Government financial assistance would be required.

(4) Fuel Tax

This is an additional Northwest Territory tax on fuel that no others in Canada pay. It has the effect of the individual feeling, penalized for living and working in the Arctic and north too often resulting in discouragement where encouragement is needed.

(5) Eskimo Employment

Eskimo employment in mining industry - to the point at least where they support themselves and do not require Government welfare with all the degeneracy such handouts entails - might be a more enlightened policy and a part of setting up national goals for the north.

7.

THE COST OF LIVING "FOR PEOPLE"

In the speakers opinion - it is the "cost of living" in the Canadian Arctic that is the chief deterrent to adaptive people from the "south" to live there.

All southern Canadian people now living in the Arctic receive Government subsidy while Eskimo are almost entirely supported by welfare in one form or another. The cost of living is presently prohibitive simply because the transport costs are too high, as compared to more southerly places in Canada.

When, and if, the Baffinland Iron operations at Mary River come into production - the bulk sea freight rate on outgoing iron ore would be about \$5.00 per ton with an even lesser rate for incoming empty ships. It is easy therefore to determine that this would drastically lower the "cost of living" - probably to within quite comparable limits to those of the "south".

CONCLUSION

In conclusion - it is the writer's opinion that the bringing into production of the Baffinland Iron Mines Ltd., project producing in time around 6,000,000 long tons or more of direct shipping high-grade iron ore - will result in profound changes affecting every phase of technology along with the living and working of people - with effects far beyond those of a single mining enterprise. It will be the leader for other major enterprises - some completely unthought of at this time.

We will also wonder why we were so long in beginning and why we were so afraid to try.
